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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yong Cheol Park

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EXAMINER

PHAM, VAN T

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,462

Applicant(s)

PARK ET AL.

Examiner

VAN T. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,22,24 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-21,23 and 26-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election with traverse of Species B in the reply filed on 11/08/2006 is acknowledged. The traversal is on the ground(s) that "examination of both species together in one application would not place an undue burden on the Examiner". This is not found persuasive because to exam two or more species the examiner does require to search more than one species that would be an undue burden on Examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 3-11, 23, 26-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Numata et al. (US 6,631,106).

Regarding claim 3, Numata, see Fig. 6 and abstract discloses a method for allocating a spare area on a recording medium, the recording medium including at least one recording layer, the method comprising: allocating a data area on the at least one recording layer of the recording medium (see Fig. 4); and allocating a user data area and at least one spare area within the data area on the recording medium (see Fig. 6), the at least one replacement area (see Figs. 7-8), the at least one replacement area having a variable size and constituting a part of the at least one spare area or the entire at least one spare area, wherein a maximum ratio of a size of the at least one

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replacement area to a size of the user data area is less than 5 % (see Figs. 6-8 and abstract where a capacity of the spare area in each zone, a predetermined total capacity of spare areas is allocated so that a spare ratio $K=D1/D2$ of a capacity $D2$ of the spare areas for a capacity $D1$ of the areas becomes almost the same the zones which is $K=4.6\text{MB}/1283.1\text{ MB} \times 100\% = 0.36\%$).

Regarding claim 4, discloses the method as claimed in claim 3, wherein the at least one recording layer is a single recording layer, the recording layer including the user data area, an inner spare area, and an outer spare area, and the inner spare area is allocated to have a predetermined fixed size and the outer spare area is allocated to have a size of $N \times 256$ clusters (see Figs. 4, 6-8 and $N=2048/256=8$).

Regarding claim 5, discloses the method as claimed in claim 4, wherein N is greater than zero and ≤ 32 (see rejection above of claim 4).

Regarding claim 6, discloses the method as claimed in claim 5, wherein a maximum ratio of a total size of the inner and outer spare areas to the size of the user data area is about 3% (see rejection above of claim 3).

Regarding claim 7, discloses the method as claimed in claim 4, wherein N is greater than zero and ≤ 64 (see rejection above of claim 5).

Regarding claim 8, discloses the method as claimed in claim 7, wherein a maximum ratio of a total size of the replacement area of the inner and outer spare areas to the size of the user data area is about 4% (see rejection above of claim 3).

Regarding claim 9, discloses the method as claimed in claim 4, wherein the outer spare area includes a replacement area and an interim defect management area for temporarily storing defect management information therein (see Fig. 4 and abstract).

Regarding claim 10, discloses the method as claimed in claim 9, wherein a size of the interim defect management area is about a quarter of a size of the outer spare area (inherently and see Fig. 4).

Regarding claim 11, discloses the method as claimed in claim 9, further comprising: allocating a lead-in area on the single recording layer of the recording medium, the lead-in area including a temporary defect management area for temporarily storing defect management information therein (see Fig. 4 and abstract).

Regarding claim 23, see rejection above of claim 3.

Regarding claims 26-34, see rejection above of claims 3-11, respectively.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-20 and 35-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata et al. (US 6,631,106) in view of the AAPA.

Regarding claim 12, Numata discloses the method as claimed in claim 3, wherein the at least one recording layer includes first recording layer, the first recording layer including a first user data area, a first inner spare area and a first outer spare area, the first inner spare area is allocated to have a predetermined fixed size (see rejection above of claim 3).

The Applicant Admitted Prior Art (AAPA) discloses a multi-layered information recording medium including first recording layer, the first recording layer including a first user

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data area, a first inner spare area and a first outer spare area and the second recording layer including a second user data area, a second inner spare area, and a second outer spare area (see Figs. 1-3) and abstract).

The combination of and the AAPA discloses the first inner spare area is allocated to have a predetermined fixed size and the second inner spare area is allocated to have a size of $L \times 256$ clusters where L is equal to or greater than zero (see rejection above of claim 3 and see Fig. 4 and AAPA Figs. 1-3 and [0011]-[0012]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a multi-layered information recording medium in Numata, as suggested by the AAPA, the motivation being in order to increase the capacity of the disc.

Noted: the combination of Numata and AAPA discloses claim 13-20, but most of the limitations are in Numata. Therefore, the suggestion to look in Numata but the rejections of claims 13-20 and 35-43 are based on the combination of Numata and AAPA.

Regarding claim 13 see rejection above of claim 4.

Regarding claims 14-16, see rejection above of claims 9-11, respectively.

Regarding claim 17, see rejection above of claims 5, 7 and 1.

Regarding claim 18, see rejection above of claim 6.

Regarding claim 19, see rejection above of claim 17.

Regarding claim 20, see rejection above of claim 8.

Regarding claims 35-43, see rejection above of claims 12-20, respectively.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being obvious over Numata et al. (US 6,631,106) in view of the Martens (US 2005/0083830).

Regarding claim 21, Numata discloses the recording medium as claimed in claim 3.

Martens discloses an optical recording medium is a write-once blu-ray disc (BD-WO) (see Fig. 11 and [0122]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an optical recording medium is a write-once blu-ray disc Numata, as suggested by Martens, the motivation being in order have a high-density recording by using a short-wavelength (see Martens [0027].

7. Claim 44 is rejected under 35 U.S.C. 103(a) as being able over Numata et al. (US 6,631,106) and AAPA in view of the Martens (US 2005/0083830).

The combination Numata and the AAPA discloses the recording medium as claimed in claim 26.

Martens discloses an optical recording medium is a write-once blu-ray disc (BD-WO) (see Fig. 11 and [0122]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an optical recording medium is a write-once blu-ray disc Numata and AAPA, as suggested by Martens, the motivation being in order have a high-density recording by using a short-wavelength (see Martens [0027].

Cited References

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The cited references relate to spare are with a predetermined capacity for a detective sector allocated in each zone and multi-layered information-recording medium, recording apparatus, and recording method.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN T. PHAM whose telephone number is 571-272-7590. The examiner can normally be reached on Monday-Friday from 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER